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GB 1247119
GB 1221510
GB 1218826
GB 1200815
GB 1020635
GB 941076
GB 556984
GB 317894
GB 263038
GB 221160
GB 160320
GB 132999
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(54) **Lifting device**

(57) The invention relates to lifting devices particularly for barrels. Hitherto whilst full barrels have been lowerable with relative ease into, e.g., a beer cellar, raising a full barrel from such a cellar has necessitated the provision of extra personnel. To allow one operative to raise a full barrel from a cellar, and place the full barrel on the back of a lorry lifting means is provided comprising a base (1) with wheels mounted towards the rearward end of the base, an upright member (7) centrally mounted at the rearward end of the base and a hoist (12) and associated pulley (11) located on the upright member. The upright member has the upper end (9) overlying the base with the pulley (11) located on the overlying portion. The upper end (9) slides in the upright member (7) and may be extended so that the device can lift the barrel to load it on the lorry.

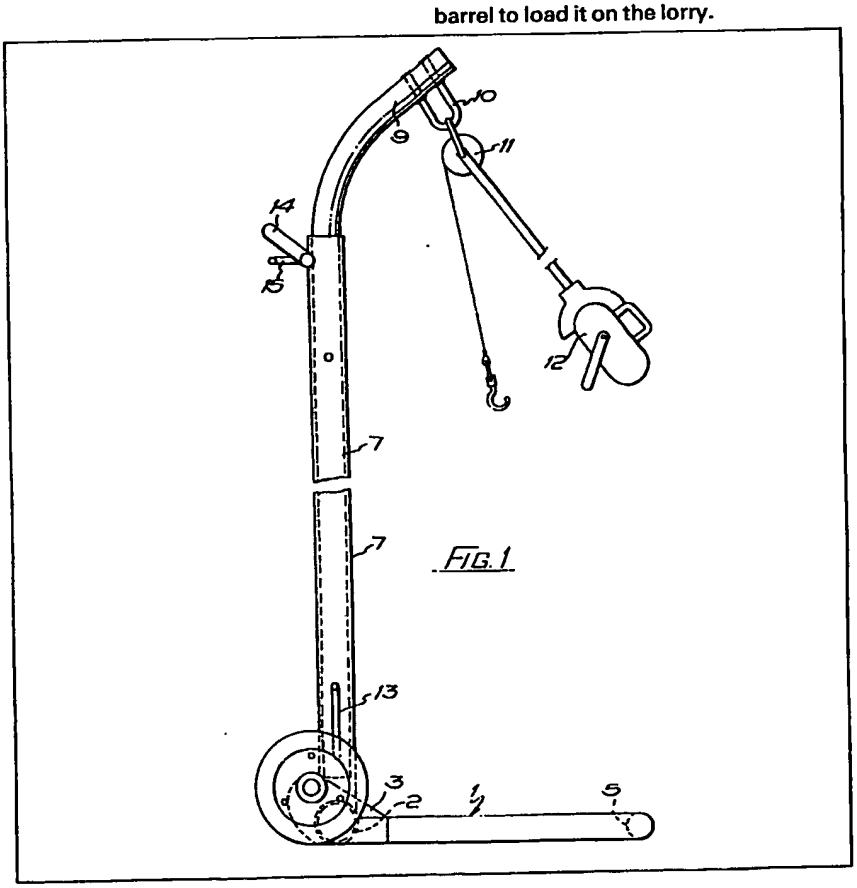

FIG. 1

The drawings originally filed were informal and the print here reproduced is taken from a later filed formal copy.

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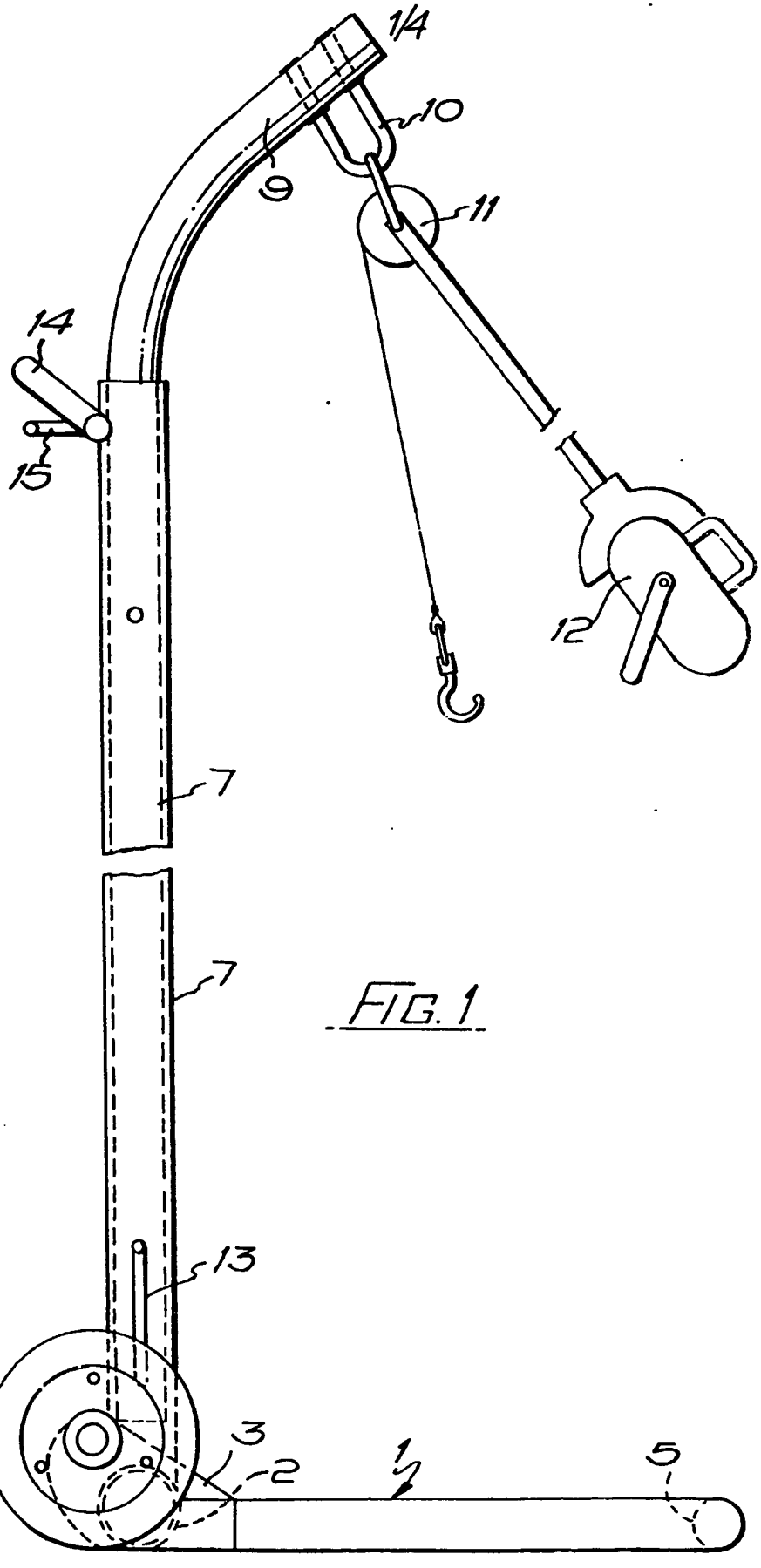

FIG. 1

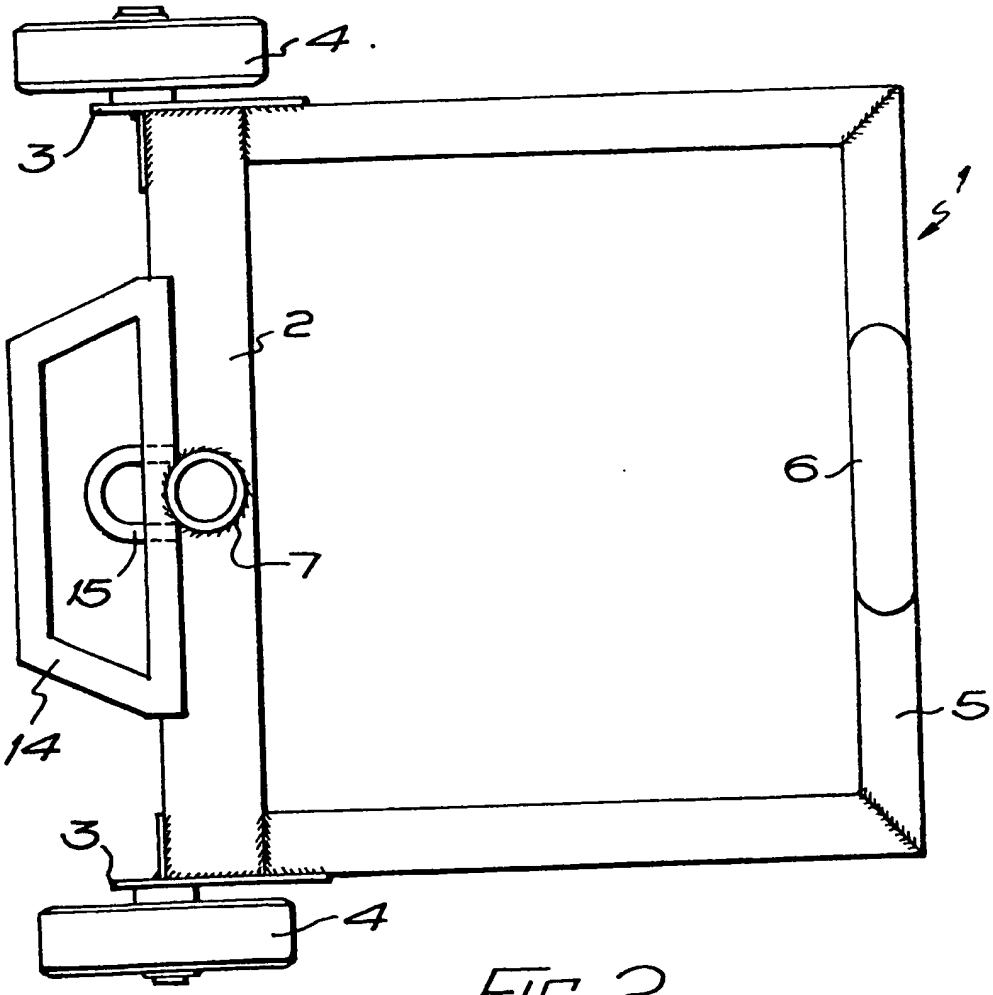

FIG. 2

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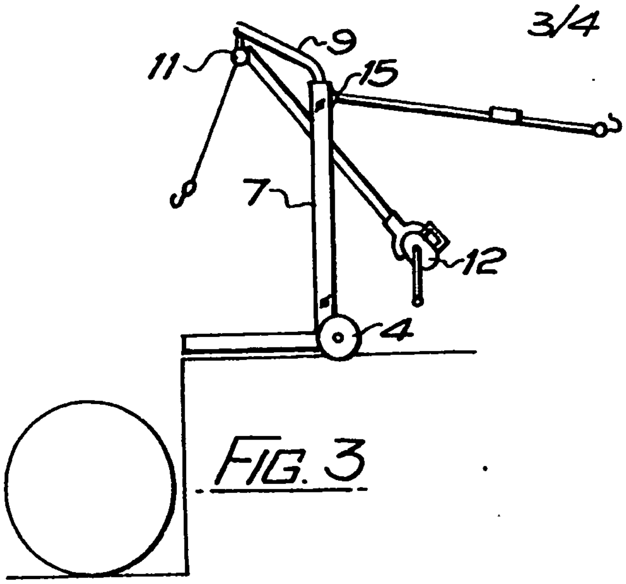

FIG. 3

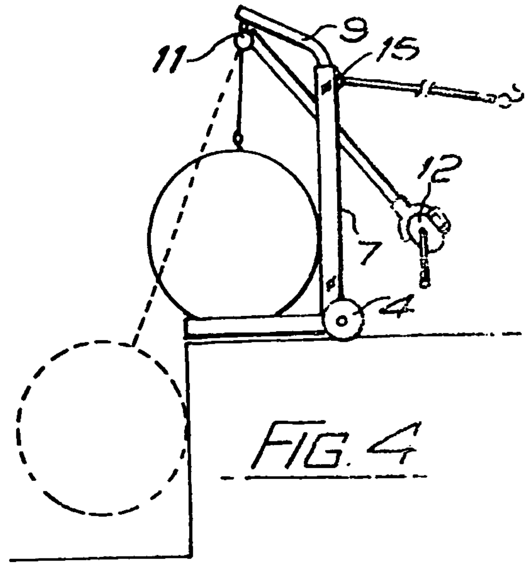

FIG. 4

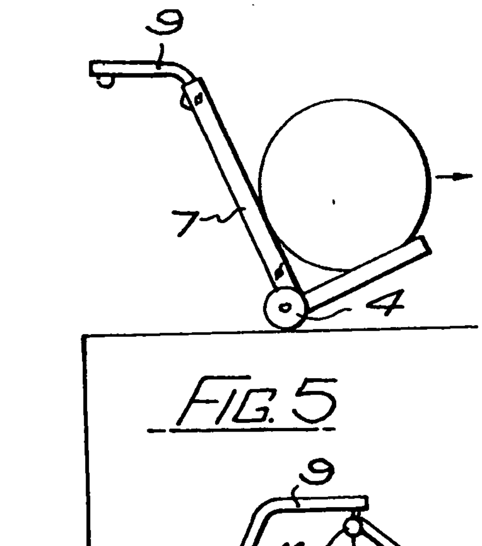

FIG. 5

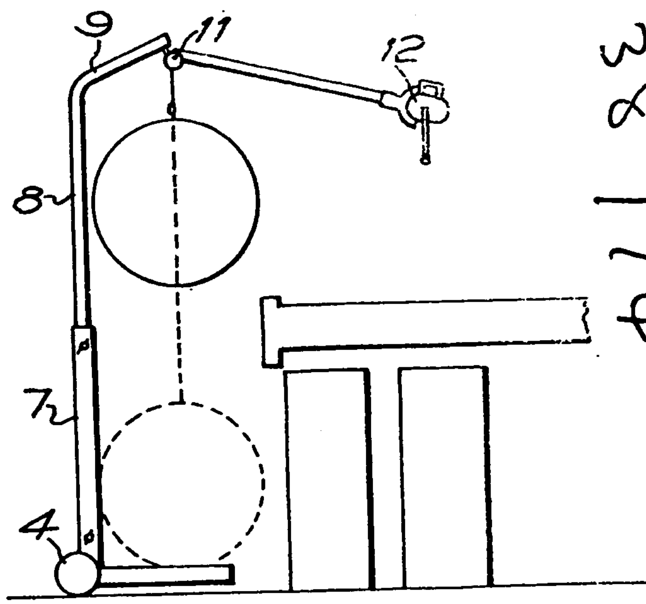

FIG. 6

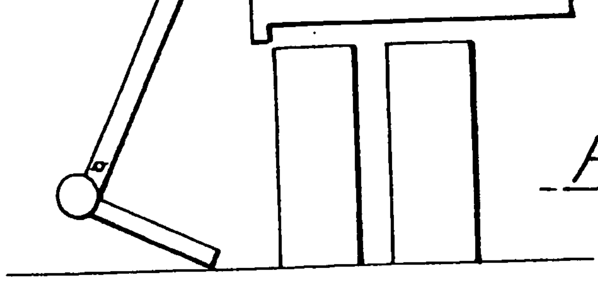

FIG. 7

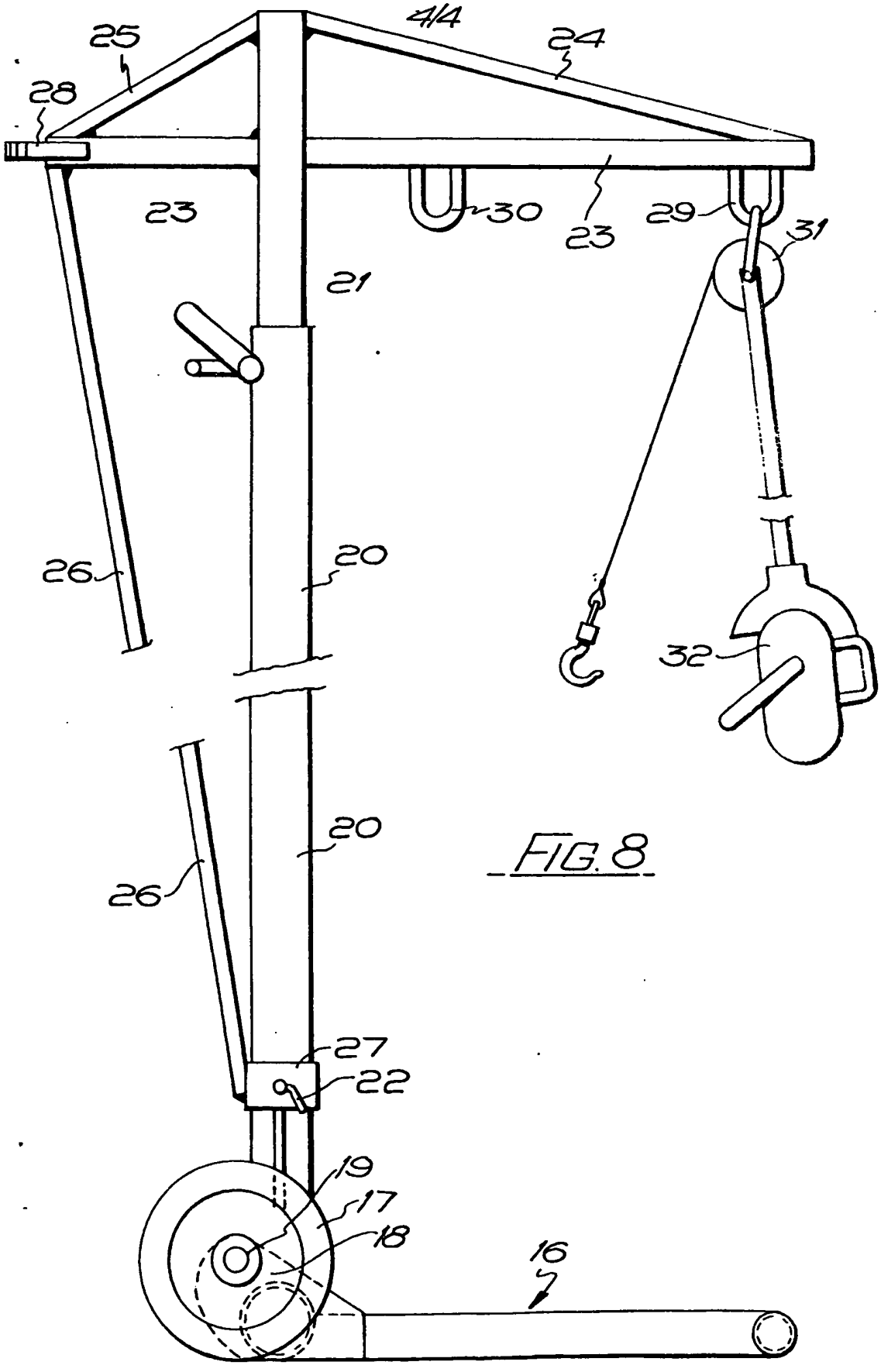

FIG. 8

SPECIFICATION

Lifting device

This invention relates to lifting devices, and is particularly, though not necessarily exclusively concerned with lifting devices for, e.g., barrels containing fluids such as beer.

Conventionally, beer is delivered by lorry to public houses and the like in barrels, the barrels, after off-loading from the lorry, being lowered into a cellar or the like by ropes. For reasons of economy, the same lorry is used to return empty barrels to the brewery. Traditionally, the delivery and return of barrels has been a two man operation, it not being unduly difficult for two men to lift empty barrels from the cellar and load them on to the lorry. However, there are frequent occassions when beer in a particular barrel proves unsaleable, and has to be returned to the brewery, and even with relatively small barrels, the weight is such that that barrel has to be subject to special attention, usually by sending four men specially to man-handle the barrel out of the cellar or the like and on to a lorry for its return to the brewery.

Although this is a frequent occurance, it is not sufficiently frequent to warrant the expense of employing purpose built lorries equipped with power lifting gear, and the object of the invention is to provide relatively simple and inexpensive means by which a full barrel can be lifted from a cellar and loaded on to a lorry.

According to the present invention, lifting means comprises a base, wheels or the like mounted at or towards one, rearward, end of the base, an upright member centrally mounted at or towards said one, rearward end of the base, and hoist and associated pulley means located on the upright member. Preferably, the upper end of the upright member has an end piece at an angle to the upright member to overlie the base, and the pulley located on the endpiece.

In the normal way, a lowering ring is located either close to the cellar or the like opening or on the delivery lorry. Thus, with the lifting means located with one (forward) end of the base adjacent the cellar opening, the upright member can be tethered to the conventional lowering ring and the hoist utilised to lift a full barrel from the cellar clear of the cellar opening and lowered on to the base, following which, the upright member is released from the conventional lowering ring and the lifting means of the invention used as a barrow to reposition the barrel alongside the lorry, when the hoist can again be activated to lift the barrel for loading on to the lorry. Preferably, stop means are provided on the base to prevent the barrel from contacting the wheels or the like.

The upright member may have a height sufficient to allow not only the lifting of the barrel clear of the cellar opening but also its loading on to the lorry. However to facilitate transportation of the lifting device, it is preferred to provide a two part upright member, a lower part of which is secured to the base, and an upper part of which is slidably mounted on the lower part and capable of being secured in lowered position for transport, and for lifting the barrel clear of the cellar opening, and a highered position for loading the barrel on to the lorry. Thus, the upper part may be telescopically located within the lower part.

With very little modification, the lifting means of the invention may also serve to lower full barrels into a cellar. Thus, by extending the endpiece of the upright member overlying the base, two pulley attachment points can be provided, one towards the free end of the endpiece and one towards the upright member itself. Thus, by positioning the device adjacent a lorry, with the pulley attached to the innermost attachment point, the device can be used to off-load a full barrel from the lorry and on to the base of the device. The device can then be used as a barrow to reposition the barrel alongside the cellar or the like opening, and with the device tethered to a lowering ring, the barrel then lowered into the cellar.

The hoist may be power driven, but can conveniently be a hand driven winch. The winch may itself be secured to the upright member or its lower part when the pulley is located at the end of the angled endpiece, or the winch may be at the lower end of an arm on the upper end of which is mounted the pulley, the arm being pivotally mounted at the end of the inturned endpiece. With the latter construction, the operative can stand well clear of the base whilst operating the winch.

Two embodiments of the invention will now be described by way of example only, with respect to the accompanying drawings, in which:-

Figure 1 is a side elevation of one embodiment of a lifting device according to the invention;

Figure 2 is a plan view of Figure 1 with the overlying endpiece omitted for clarity;

Figures 3 to *7* are schematic representations of the device of Figure 1 in various operational positions; and

Figure 8 corresponds to Figure 1, but shows a second embodiment of the device according to the invention

In Figures 1 and 2, a lifting device has a base 1 formed from tubular members suitably secured together, e.g., by welding, one, rearward, member 2 being provided with side plates 3 on which are rotatably mounted wheels 4, the wheels being so positioned that with the base members in contact with the floor, the wheels lie marginally clear of the floor. The forward member 5 of the base has a flattened central portion 6 for ease of positioning a barrel on the base. Centrally of the rearward member 2, a tubular upright member 7 is provided, suitably secured, e.g., by welding, to the rearward member. Slidably mounted within the upright member 7 is a second upright member 8 having an endpiece 9 overlying the base, the endpiece having locating means 10 for pivotally locating a pulley 11 attached to a winch 12. The second upright member can be locked to the upright member 7 in a collapsed position as is shown in Figure 1, or in an extended position, by a locking pin 13 engaging in cooperating holes through the two members.

Towards the upper end of the upright member 7, a

handle 14 is provided, the handle supporting a U-shaped member 15 for tethering the device to a lowering ring (not shown).

Thus, as is shown schematically in Figures 3 to 7, the device, in the collapsed condition, can first be used to lift a barrel out of a cellar and on to the device, and the device tilted and used as a barrow to reposition the barrel adjacent a lorry. The upright member 8 is then extended, and the device used to lift the barrel to load it on to the lorry.

In the second embodiment shown in Figure 8, a more robust structure is provided and whereby the device can not only perform all the functions of the device of Figures 1 to 7, but can also lower a barrel into a cellar. Thus a lifting and lowering device again has a base 16 formed from tubular members with wheels 17 secured to side plates 18 themselves secured to the rearward base member 19. An upright member 20 is secured centrally of the base member 19, with a second upright member 21 telescopically fitted within the upright member 20, lockable by a pin 22 in a collapsed (as shown) and extended position. In this embodiment, the overhanding endpiece to the upright member 21 is formed as a jib 23 extending to both sides of the upright member 21, the part overhanging the base being longer than the base. Each end of the jib is connected by tie rods 24, 25 to the top of the upright member 21, and the rearward end of the jib connected by a tie rod 26 to a slider 27 engaging the upright member 20, the locking pin 22 passing through the slider 27 as well as the upright members. At the rearward end of the jib, a U-shaped member 28 is provided for tethering the device to a lowering ring, and on the forward end of the jib two location points 29, 30 are provided to which can be pivotally secured a pulley 31 connected to a winch 32.

Thus, with the pulley 31 connected to the location point 30, the device of Figure 8 can perform in precisely the same manner as has been described above in relation to the device of Figure 1. However the device of Figure 8 is better suited to the lowering of full barrels into a cellar. Thus, with a barrel on the base and with the device positioned alongside a cellar opening, the pulley is connected to a location point 29 on the jib, i.e. at or beyond the end of the base, and the device tethered to a lowering ring. The winch can then be used to raise the barrel when it can easily be swung over the cellar opening and lowered into the cellar. It will be understood that with the device of Figure 8 tethered, either of the location points 29, 30 can be used to raise a full barrel out of the cellar, but to load the barrel on to a lorry, when the device is not tethered, only the location point 30 should be used to prevent the device from toppling over as the barrel is being lifted.

CLAIMS

1. Lifting means comprising a base, wheels or the like mounted at or towards one, rearward, end of the base, an upright member centrally mounted at or towards said one, rearward end of the base, and hoist and associated pulley means located on the upright member

2. Lifting means as in Claim 1, wherein the upper end of the upright member has an end piece at an angle to the upright member to overlie the base, and the pulley located on the end piece.

3. Lifting means as in Claim 1 or Claim 2, wherein means are provided to tether the lifting means to a conventional lowering ring.

4. Lifting means as in any of Claims 1 to 3, wherein a two part upright member is provided, having a lower part of which is secured to the base, and an upper part of which is slidably mounted on the lower part and capable of being secured in lowered position for transport, and for lifting the barrel clear of the cellar opening, and a highered position for loading the barrel on to the lorry.

5. Lifting means as in Claim 4, wherein the upper part is telescopically located within the lower part.

6. Lifting means as in any of Claims 1 to 5, wherein the endpiece of the upright member overlying the base is provided with two pulley attachment points, one towards the free end of the endpiece and one towards the upright member itself, whereby the innermost pulley attachment point can be utilised to lift a barrel from a cellar and lift the barrel for loading on to a lorry, and the outermost attachment point utilised to lower a full barrel into a cellar.

7. Lifting means as in any of Claims 1 to 6, wherein the hoist is a power driven hoist.

8. Lifting means as in any of Claims 1 to 6, wherein the hoist is a hand driven winch.

9. Lifting means as in any of Claims 1 to 8, wherein the hoist is secured to the upright member or its lower part.

10. Lifting means as in any of Claims 1 to 8, wherein the hoist is at the lower end of an arm on the upper end of which is mounted the pulley, the arm being pivotally mounted on the inturned endpiece.

11. A lifting device substantially as hereinbefore described with reference to Figures 1 to 7 of the accompanying drawings.

12. A lifting device substantially as hereinbefore described with reference to Figure 8 of the accompanying drawings.

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